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MISCELLANY.

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ARTICLE I.

A New System of Phrenology. By J. Stanley Grimes, President of the Western Phrenological Society at Buffalo.

> "To him who in the love of nature holds
> Communion with her visible forms, she speaks
> A various language."—Bryant.

Buffalo: Oliver G. Steele. New York: Wiley & Putnam. 1839, pp. 320, 12mo.

The business of reform and improvement is one of the most difficult and hazardous enterprises in which man can engage. And this is as true of reform in principle, as of reform in *practice;* because the *latter* is, or at least ought to be, the product of the *former.* No one, therefore, whatever may be his calling or profession, should embark in the enterprise, until, by the most thorough investigation, and patient, persevering, and matured reflection, he has attained a positive certainty on two points—viz. that his predecessors on the subject he is canvassing have been in error, and that he has possessed himself of unquestionable truth; or that they have been in some things deficient or wrong, and that he is qualified to supply their short-comings, and rectify their mistakes.

If these sentiments be correct, (and we doubt whether any one will venture to gainsay them,) it is at least *improbable,* if not *impossible,* for a young inquirer to be a successful reformer—for one who is necessarily but an *inquirer* himself, to be fortunate in his effort to become at once an instructor and an improver of others. To this general rule, exceptions *may* perhaps occasionally occur; but that they are exceedingly rare, and altogether unlooked-for, will not be denied.

As respects reformation and improvement in science, these remarks may be regarded as settled *canons* in criticism. They constitute an

orthodoxy, from which it is unwise, if not presumptuous, to depart. It may not therefore be altogether amiss to inquire, for a moment, to what *extent* they are applicable, if applicable at all, to the work whose title-page forms the heading of this article, and which professes to be a "*New System of Phrenology*."

If report on the subject, as it has reached us, be correct, it is not more than from *four* to *five* years since Mr. Grimes commenced the study of phrenology, without having been previously an educated man, or in any degree remarkable for his devotedness to inquiry. Certainly it is *within* that time that he has made himself *known* as a phrenologist. It might well be regarded, therefore, as something more than questionable, whether he could become, in so short a period, an improver of the result of the labours of more than *forty years*, by men of the most distinguished ability and the highest attainments. It is in no degree disparaging to him, nor is it intended to be so considered, to say that, under circumstances so insufficient, and in a case so unpromising, the verdict of the world, if given in the abstract, would be decidedly against him. It would be asserted that, as yet, he could himself be nothing but a *learner*—the more especially if, as is understood to be the case, he has, until recently, dedicated to study but the *fragments* of his time. It is *possible*, however, that the decision might be incorrect; and that, in the short period of four years, our author might prepare himself to remodel and improve, by a single and first effort, the system, in the erection of which nearly half a century has been consumed by Gall and Spurzheim, Combe and Broussais, and many other distinguished fellow-labourers. But success so unusual is *hardly more than possible*. It is certainly not very probable. At any rate, it would be equally unfair in principle, and inconclusive in result, to attempt to settle Mr. Grimes' standing as a phrenologist *potentially* instead of *practically*—by conjecturing what he possibly might have done in four or five years, instead of examining what he actually *has* done. To the latter and more just and satisfactory mode of trial, therefore, it shall be our business to resort. And this we do with the more readiness, in consideration of the writer's invitation to that effect, which we shall regard as sincere, and act on it accordingly. "I appeal," says he, "with confidence to the *justice* and candor of phrenologians. I invite their *criticisms* as a favour; and when I am convicted of error, either in facts or conclusions, I shall take great pleasure in making acknowledgments." This, in our author, is candid and manly, and calculated to make a favourable impression on the public. With the kindest feelings toward him, therefore, as a fellow-labourer in a great cause, we take him at his word, and

close with his invitation. And as his more immediate friends and associates will no doubt point out and illustrate the truths and valuable qualities of his work, which are neither few nor small, we shall dwell chiefly on what we consider his errors and faults. And, when fairly and competently executed, this, though the most unpleasant, is far the most useful office of criticism. A writer is but little, if at all, benefited by an enumeration of his excellencies, and a descant on his beauties. On the contrary, he is often injured by them. But a candid and judicious representation of his errors, wants, and failures, provided he receive it in a becoming spirit, can never fail to be a source of improvement to him. Though the facts of the "New System," whether reputed or real, shall be our chief concern, we shall not pass all opinions embraced in it entirely unnoticed. We shall even begin with a stricture on an opinion, which appears to us to be directly opposed to one of the most obvious and operative principles in nature—a principle without whose influence, creation would relapse into confusion and chaos.

"Although," says our author, "I have taken some trouble to show that certain organs (of the brain) naturally act together, I cannot countenance the idea that some organs were intended as *antagonists* to others. *They all act in harmony.*"

The fallacy of this notion is palpable. The highest perfection of the *human* mind, and of course one of the chief differences between it and the minds of the inferior animals, consists in the balance created and preserved by the antagonisation of some of its faculties. Under the influence of judicious and well-matured discipline, the moral and reflecting, especially the former, so antagonise the animal faculties, as to hold them in a state of salutary and practical regulation and control. And hence alone results mental harmony. Abrogate this control, and wild disorder and disaster must follow. Man will become more insidious and thievish than the fox or the weasel, and more ferocious and sanguinary than the hyena or the tiger. In an individual, for example, whose Destructiveness, Combativeness, and Acquisitiveness, are powerful and active, paralyse or extinguish Benevolence, Conscientiousness, Veneration, and the reflecting faculties, and you render him a daring and repulsive object of profligacy and crime. Revive those faculties, and they will so antagonise and counterbalance the animal powers, that you will check vice, and bring back the offender to the paths of virtue. Nor is it in the human mind alone, that antagonism preserves and perpetuates harmony and order, and averts the evils of confusion and misrule. As far as our knowledge on the subject extends, the same is true of creation at large. In dead matter, attraction and

repulsion, by antagonising and balancing each other, maintain peace and good order on earth; and throughout the entire range of the heavenly bodies, the centripetal and centrifugal powers do the same. Destroy the latter of the two powers, in each case, and universal consolidation and inaction will ensue in the last instance, and lawless misrule and confusion in the first.

In the living human body, who is ignorant of the necessity and beneficial effects of a well-balanced muscular antagonism? and of the convulsion and distortion, or tonic spasm and permanent rigidity, which follow, when that antagonism is suspended or deranged? But we can pursue this topic no further. Nor is it necessary that we should do so. Enough has been said to prove against our author the charge of error; to show, in opposition to his opinion, that some of our cerebral organs *are*, and of course were "*intended* to be, antagonists to others;" and that is all that was aimed at by us, and all that is necessary for the purpose we have in view.

Another singularly erroneous notion entertained by Mr. Grimes, which shows his deficiency in physiological knowledge, is expressed as follows:—

"These three classes of organs, the *bones*, the *muscles*, and the *nerves*, constitute the *most essential* part of the human constitution."

That the nerves, including the brain, constitute the master tissue of the human body, is true. But next to these stand the *blood-making* and the *blood-circulating* organs, contained in the thorax, and the *digestive* organs, contained in the abdomen. The *bones* and *muscles*, though highly important, hold an inferior rank. So true is this, that the organic contents of the three great cavities, the abdomen, the thorax, and the cranium with their immediate appendages, especially the nerves, spinal cord, and blood-vessels, constitute so essentially the chief elements of the individual, that they might be almost pronounced the *individual himself*.

But these mistakes, especially the latter, though sufficiently striking, and any thing but flattering to our author's scientific accuracy, are not very serious in their bearing on phrenology. There exists, however, another of a very different character, which comes, if we mistake not, into direct collision with one of the most important truths in anthropology;—we should rather perhaps say, in the philosophy of the entire range of living organised matter, from the highest to the lowerst order of it. It relates to the elements or constitution of the *bilious temperament*—that temperament, which bestows on its possessor superior vigour, both mental and corporeal, and unequaled endurance under exposure and hardships, and every form of privation that may befall him, and which can do all this for

no other reason but because it is a source of *superior vitality*—that temperament the author ascribes to a predominance in size of the *venous* system, and a superabundant amount of *venous* blood.

In his discussion on this subject, he has, with a view to strengthen his position, or to render it at least more plausible, fallen into sundry minor errors, and has, in several instances, substituted *assertions* for *facts*—at least for what he has not established as facts.

"The blood," he asserts, "is not *so warm* in the veins as it is in the arteries."

Whether is this, we would ask, a fact or a supposition? Has the writer ever made *satisfactory* and conclusive experiments to prove it to be a fact? We fear he has not; nor, as far as our knowledge extends, has any body else. That, under similar circumstances, arterial blood, when drawn from the system, retains its temperature longer, and therefore loses it more slowly, than venous blood, is true. Its specific temperature, arising from its greater amount of latent caloric, is the higher. But when circulating in the living and healthy system of man, the temperature of arterial and venous blood is the same. We certainly know of no experiments demonstrative of the contrary. In the reports of experimenters on the subject there is no uniformity. Some have stated that, in passing from the right to the left side of the heart, (or, as others express themselves, from the *venous* to the *arterial* heart,) the blood loses about one degree of heat. Others, again, have asserted the reverse—that the blood, in making the passage, *gains* a degree.

To say the least of it, therefore, the point is *unsettled*, and cannot with positiveness and safety be either affirmed or denied. Individually, however, we are inclined to believe that the temperature of the two varieties of blood, when circulating in the blood-vessels, is the same. Again:

"The venous system," says our author, "is developed in different degrees in different persons."

Is he confident, however, that it is always and necessarily developed in a *higher degree* in the bilious temperament than in the sanguineous? What observations has he made on which to found, and what experiments to prove, the position? Or has he, in reality, any thing to found it on, more substantial than conjecture and fancy? If so, he owes it alike to himself and the science he professes, to make it publicly known. For we are inclined to believe that positive facts are wanting on the subject.

"The venous system," he again observes, "becomes more full as people grow older, and at the same time the arteries shrink. *Certain climates also give greater activity to the venous system.*"

In this paragraph are two propositions, one of which is correct, and the other *doubtful*, if not groundless. And both are hostile to our author's hypothesis.

It is true that the "venous system becomes more full as people grow older," especially after the meridian of life—and more especially still in far advanced life—say, after the age of sixty. But will the writer contend, that at that period of advancement, when life and strength are deep in decline, the bilious temperament, with its vigour and endurance, is more completely formed and matured, and therefore in higher perfection, than at an earlier period, when the system was more fresh, its stamina unbroken, and its spirits unexhausted? Surely he will not. Nor will he, we think, allege that, in old age, the venous system contains a greater amount of blood, because it possesses "*greater activity.*" On the contrary, the reverse is true. In advanced life, the veins are more distended with blood, because they are *less* vigorous and active, and therefore less able to empty themselves of the blood, which they receive from the capillaries, than they were in youth, and in the prime of manhood.

As respects Mr. Grimes' assertion, that "certain climates give greater activity to the venous system," we want evidence to convince us of its soundness, and should be pleased to receive it. Is it tropical and other hot climates that thus enlarge the "venous system?" Observation has not yet confirmed us in that belief. On the contrary, the veins of the negro, a native of Africa, are inferior in size to the veins of the European, the size of the individuals being the same. This is, in a particular manner, and in no small degree, the case as respects the veins in the hands and feet. Hence the hand of the African is cooler than that of the Caucasian, because there is less blood in it; and, for the same reason, his feet are more easily injured by frost. Our author, moreover, will hardly assent that cold climates augment the size of the veins; because the assertion would be at war with his hypothesis. Such climates are less productive of the bilious temperament, than the climates of the south. In the north, as far at least as climate avails in the matter, the predominant temperament is the sanguineous; and, other things being equal, we venture to say that there is as much venous blood in the sanguineous temperament as in the bilious—as much, we mean, in proportion to the amount of arterial blood. And in confirmation of our assertion, we appeal to observation. In the sanguineous temperament, the whole amount of blood being unusually large, the whole vascular system corresponds to it—the veins constituting no exception. And if the arteries are small in the bilious

temperament, so are the veins; for between these two sets of vessels a fair degree of harmony must prevail in size as well as in action, else disease and death will be the unavoidable result. Hence the dangerous character, and the too frequently fatal termination of apoplexy, pneumonia notha, and every form of what is called congestive fever, in each of which there exists, in some part of the body, a preternatural accumulation of venous blood. To attribute, therefore, to the bilious temperament, as its cause, any degree of such accumulation, or any tendency toward the fulness and general condition of the veins which arise from their exhaustion and debility in old age, is to be the advocate of a notion which to us appears altogether groundless.

To speak of it in still plainer and stronger terms, it is a notion held by our author, in direct contradiction of all we know, or have reason to believe, in relation to the design and uses of the blood, in nourishing the solids of the body, in imparting life to them, and in maintaining that life in vigour, permanence, and fitness for action. These high and important offices, as is known to physiologists, are all performed by the *arterial* blood, not one of them by the *venous*. The venous blood contributes nothing toward nutrition, because it is carried *from* the nutritive vessels or tissues, toward the right side of the heart and the lungs, there to undergo the requisite change. It contributes nothing to the vitality of the solids, because it is already too much exhausted of its own vitality, until it receives a fresh supply of it, and is reconverted into arterial blood, by the action of the lungs. Hence, as already intimated, an accumulation of venous blood in an organ never augments any of the vital properties of that organ, but diminishes them; while, on the other hand, an accumulation of arterial blood increases them. In confirmation of the truth of this latter proposition, in inflammation, and in all forms of vital erection, where there is necessarily an accumulation of arterial blood, the vital property of sensitiveness, with calorification, and the process of *natural* secretion, are heightened and invigorated, and sometimes a new form of secretory action is set up. But we repeat, that, under the influence of venous congestion, the very reverse of this occurs. Instead of an increase of vitality in the part congested, a diminution of it takes place.

If this representation be correct, (and no physiologist will deem it safe to question it,) it is physically impossible that the bilious, which, of all the *simple* temperaments, is the most high-toned, vigorous, and efficient in action, and which has marked, in part at least, the greatest men the world has produced, and has not a little contributed to their greatness—it is absolutely impossible that, in

any degree of consistency with the laws of nature, such a temperament should depend, for its production and maintenance, on a superabundance of the *semi-devitalised* venous blood. And had Mr. Grimes been a physiologist, as every thorough-bred and philosophical phrenologist *must* be, he would never have involved himself in so fatal a mistake. As well may he contend that the venous blood is the immediate source of innervation, nutrition, secretion, calorification, and every other vital process, and even of vitality itself, as of the bilious temperament. We have dwelt somewhat at length on this subject, as it involves important principles connected with phrenology, and Mr. Grimes' views of the temperaments appear to be decidedly erroneous, and, consequently, cannot prove otherwise than injurious to the science.

Another physiological mistake in our author, as palpable and gross as can well be imagined, is where (see page 27) he states the venous system to be one of the "three *nourishing* systems" of the body. As well might he so denominate that branch of the absorbents whose office is to *take up* and *carry away* the substance of organs, instead of *conveying it to them* and *putting it down*, for the purpose of nourishing them.

But a still higher, and, as relates to phrenology, a more important feature in the "New System" of Mr. Grimes, and one on which we apprehend he sets a greater value than on any other, is yet to be mentioned. It is his classification of the cerebral organs, his supposed discovery of new organs, and his changing the names bestowed on those already known by his predecessors, (not to call them his instructors,) with which all phrenologists had become familiar, and with which but few had expressed dissatisfaction. And of none of these innovations can we cordially approve, because we do not regard them as *improvements*. To change the nomenclature of a science, except for the most substantial reasons, and especially without improving it, is worse than useless. It is an act of arrogance which should never be committed; but of which our author, if we mistake not, is guilty. In our estimation, instead of improving the nomenclature of phrenology, he has materially injured it. Forbidden by a want of time and space to assign our reasons at large for this opinion, we can only say, that to ourselves they are satisfactory; and that we hold ourselves prepared to render them hereafter, should it be deemed necessary.

As respects his new organs, (Pneumativeness and Chemicality,) more especially his location of them, we are compelled to deem it a *fancy* rather than a *fact*. Of this we are confident, that, from the locality he has given them on the "phrenological bust" which con-

stitutes the frontispiece of his book, they can never be detected by the strictest examination of the exterior of the head. No developement of any portion of the brain, consistent with health, can produce the slightest protrusion of the sites he assigns them. They are situated quite too far below the mechanical action of the base of the brain, to be in the least affected by its natural developement. Nor is this all.

The writer's organ of Chemicality is, and must be, (or we are greatly mistaken,) a *creation of his own.* It is a *compound* organ—an anomaly which nature has yet to form. It involves the *perception* of two distinct senses, taste and smell, and performs, therefore, two essentially different functions. But no cerebral organ can do that, any more than the same nerve can subserve sensation and voluntary motion. As well might Mr. Grimes amalgamate in the same organ the sentiments of Veneration and Hope, as the functions of the olfactory and the gustatory nerves. The fancy, in either case, is unnatural and preposterous, and too well calculated to bring down ridicule, not to say disrepute, on its author or his science, if not on both. In this, we hope we are clearly understood. Mr. Grimes, we repeat, in his organ of Chemicality, represents the same portion of brain as the receptacle of two distinct impressions conveyed to it —one by the nerve of taste, the other by the nerve of smell. As soon, we say, shall the same cerebral organ be the seat of the sensation of seeing and hearing—an absurdity which no enlightened physiologist will admit.

The writer's division of the cerebral organs into Intellectuals, Ipseals, and Socials, involves nothing new in either fact or principle, but only in *names.* And with some of his names we are not satisfied. Ipseals we consider affected and pedantic; and the socials are made to include organs which belong of right to different classes. To associate thus closely Amativeness and Inhabitiveness with Veneration and Wonder, is unnatural. Nature herself may be regarded as giving testimony confirmatory of this error, by placing the organs so remote from each other. As to the assertion, that they spring from the same root, and therefore belong to the same class, we receive it as a conjecture, entitled to no weight in a philosophical discussion. It has never been anatomically demonstrated as a fact. In a word, we are compelled to regard Mr. Grimes' classification as, in no small degree, a work of *his own devising* and *constructing;* not as an ingenious and correct exposition of the work of nature. His class of "Ipseals," although they have not been strictly designated to that effect by name, have been always represented as *individual* and *selfish;* being exercised almost exclusively for the grati-

fication of their possessors. And his "Socials" have been expounded as feelings not centered in self, but as bearing a relation to other beings—some of them chiefly to the inhabitants of earth, and others not only to the same inhabitants, but also to beings of a superior order, rising upward to the Deity himself. The very slight and superficial change which he has made in the intellectuals, we shall so far notice, as to say that it amounts to any thing but an *improvement*. The simplicity of his division of the organs into three classes, he has seriously marred, by the number, complexity, and confusion of his eight "ranges" and three "groups." Nor, as we shall show presently, is his location of the organs in his "ranges" in every case correct. A transfer of some of them to other "ranges," would be an amendment.

The classification by Mr. Combe, which is an improvement on that by Dr. Spurzheim, and embraces all in Mr. Grimes' that is in any degree useful, is the best yet extant. It is the most natural and simple, and therefore the most intelligible, and most easily applied to practical purposes. It has nothing artificial in it, does not appear to have been framed in a *human manufactory*, but to be a plain and judicious exposition of a work of nature.

Man, when viewed in his true character, is manifestly a compound of three natures or modes of being—animal, moral, and intellectual—which glide into each other so gradually, that it is exceedingly difficult, if not impossible, to trace between them well settled and definite lines of demarcation. And such is the representation of him given in Mr. Combe's classification of his mental faculties. In the system of Mr. Grimes, on the contrary, there is an effort made to group the faculties, or rather their organs, too precisely and arbitrarily, and to include them within stricter measures and bounds than nature has prescribed for them, or than she is willing to sanction.

With some of our author's "ranges," we have expressed ourselves dissatisfied. In the title "*rodentia* range," we perceive no shadow of *fitness*, applicability, or *correctness of meaning*. On the contrary, we are inclined to think that there is much error and *unfitness* in it. The only two faculties represented as belonging to it, are Constructiveness and Acquisitiveness. And we cannot regard the assignment of them to it as correct. Many species of the feathered race are distinguished for their Constructiveness, beyond, perhaps, any other of the inferior animals. They have also a sufficient stock of Acquisitiveness to induce them to take possession of places and things, to claim them as *their own*, and to defend and retain them in battle, at the risk of their lives. Yet with no show of propriety or correctness can they be, in any respect, consistently with the principles of science

or language, designated by the term "rodentia." That term signifies *gnawers*. It is a name given to a class of animals, on account of the peculiarities of their teeth, and of their habits in the employment of them. They gnaw and cut wood, nuts, grain, and other solid substances. To this class belong beavers, squirrels, rats, weasels, mice, and various other *quadrupeds—but no birds*. Yet do birds, we repeat, surpass in Constructiveness.

Nor is this all. Every species of animals belonging to the "rodentia" tribe have not enough of Acquisitiveness to induce them to hoard, or even to cling to a place of residence, or any other sort of possession, as if they deemed it *their own*. The "rodentia range," therefore, we consider a failure, both in principle and application.

Nor are we inclined to say much less of the "herbivorous range," which our author incorrectly characterises by *Secretiveness*, as if that faculty were predominant in herb-eating animals. But the fact is otherwise. It is much less predominant in them than in carnivorous animals. The reason is plain. The food of herbivorous animals neither hides from them nor flies from them. They have, therefore, no need to exercise secrecy or stratagem in the procurement of it. But with carnivorous animals the case is quite different. They must gain possession of the victims they prey on, by stealth and surprise. In them, therefore, the organ of Secretiveness is much more fully developed than in animals that subsist on vegetables. Nor is our author much more correct in relation to Cautiousness, the other organ which he includes under the "herbivorous range." It is far from being peculiar to vegetable-consuming animals, or even from being bestowed on them in an inordinate degree. In most carnivorous animals it is equally predominant, and more so in some of them. With all his occasional boldness and daring, even the lion has much of it. So have the tiger, the leopard, the cougar, and almost every other animal of the cat kind. Hence they engage in combat with great caution, except when they are confident of their superior strength, or of their possession of some other decided advantage. The lion is extremely shy of the elephant, and is cautious of coming to battle with the royal tiger, a monster of about his own size and strength. Indeed, in the habits, manners, and actions, of most carnivorous animals, Secretiveness and Cautiousness unite their functions, and give aid to each other, at least in as high a degree as they do in the herbivorous tribes—were we to say in a higher, it would not be easy to convict us of error. To other "ranges" we have also objections; but a want of room prevents us from stating them.

Of our author's change in phrenological nomenclature, we cannot

approve. Such a measure is justifiable only on one of two grounds, or on both united—*necessity* or *usefulness*. And, in the present case, no plea, we think, can be based on either. The nomenclature of Gall and Spurzheim, and their co-labourers and followers, sufficiently subserved the purposes of the science. It is not *necessary*, therefore, to change it. And we are much mistaken if the change made by Mr. Grimes amounts to an improvement. In most respects, we deem it the reverse. Nor are we satisfied that it is otherwise in any respect. In our remarks on this subject, we must necessarily be brief. We shall limit our observations to two organs.

On the organ heretofore denominated Wit and Mirthfulness, our author has bestowed the name of Playfulness, and considers it as belonging to all animals, from fishes to man, and as being peculiarly predominant in *young animals*. Why? Because all animals play; and young ones play more than old ones. Here our author makes no distinction between playfulness of mind and playfulness of body—between the mirthful exercise of the human brain, and the clumsy muscular gambols of the grampus. He considers the source of the refined and exquisite wit of Shakspeare and Cervantes, Rabelais and Voltaire, the same with that of the frisking of the kitten, the awkward capering of the pig, and the sport of the gosling and the duckling in the mud-puddle! But this topic is really too ludicrous to be introduced and gravely treated of in a philosophical discussion. It is calculated to bring phrenology into disrepute, rather than to benefit it. We therefore decline its farther consideration. Again:

To the organ heretofore called Veneration or Reverence, Mr. Grimes gives the name of Submissiveness. And this organ, also, which all other phrenologists, Broussais perhaps excepted, consider as peculiar to man, and as constituting one of the most prominent marks of distinction between him and inferior beings, Mr. Grimes bestows on dogs, horses, cows, and other animals, characterised by a disposition to submit and be tractable. Nor is this all. He asserts that the sentiment of Veneration is the product of Submissiveness; thus palpably substituting the *effect* for the *cause*. He contends that we venerate men and beings of a superior order, up to the Deity himself, because we submit to them, instead of submitting to them because we venerate them—an opinion which involves as palpable a perversion of cause and effect as can possibly be imagined. Has Mr. Grimes ever discovered in the brains of dogs, cows, and horses, or of any other inferior animals, that convolution which forms the organ of Veneration? Or has he ever found in them the organ of Mirthfulness? He will not reply to these questions affirmatively, and submit his reply to the test of anatomy. The truth is, that the

two organs referred to belong as exclusvely to man, as either Hope or Ideality, which our author has correctly placed in his "human range," but under the names of "Perfectiveness" and "Hopefulness," without either necessity or usefulness to justify the change, and therefore, as we conceive, on indefensible ground.

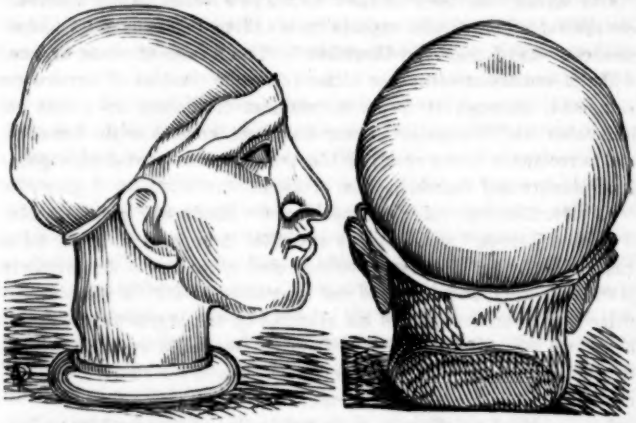
Our author has been at fault in the new names he has bestowed on several other organs, especially in calling Self-esteem "Imperativeness," and Locality, "Direction." The former of these organs, with its sentiment, does not alone constitute the love of empire or command, although it forms an element of it; and an ability to remember and recognise places, and steer courses with dexterity and correctness, is the result of the united action of several organs, Individuality and Size being two of them.

Of Mr. Grimes' calling Benevolence "Kindness," and Wonder, "Credenciveness," we shall only say, that it appears to us to be a change made by him merely from a *love of change*. Assuredly it is not *necessary*, and no *useful* end is attained by it. With his new name of Sanitativeness, and his remarks on the organ thus denominated, we are also dissatisfied. It might be easily made to appear, that a fair analysis of the subject is adverse to his views. But we can pursue this discussion no farther.

Notwithstanding the numerous exceptions we have taken to Mr. Grimes' "New System of Phrenology," we have no disposition to disparage the author. Far from it. He possesses a mind of penetration and activity, perceives and thinks clearly, and is, we doubt not, an attractive lecturer. But he has written indiscreetly, under the ambitious character of a reformer, at too early a period of his studies. Many of his views are therefore limited and crude, and ought not to have been submitted to the public, except as mere *suggestions*, until farther reflected on, expanded, and matured. His style, moreover, without being in a high degree faulty, is certainly neither chaste, vigorous, nor polished. It should therefore be carefully cultivated and amended by him. And, with his command of language, the task may be easily accomplished. He is comparatively young in science, and has before him a flattering prospect and an honourable career, provided he be true to science and himself. But as regards the standing and distinction he aims at, and even thinks, perhaps, that he already possesses, (we mean as a reformer and an instructor of the world in phrenology,) he must labour for them many years before he shall have attained them, and should deem himself fortunate if he attain them at last. With these remarks, accompanied by the kindest feelings, and best wishes for his success and prosperity, we respectfully take leave of him.

ARTICLE II.

PHRENOLOGICAL DEVELOPEMENTS OF GOTTFRIED, A MURDERESS.



The above cuts are designed to present two different views of the head of Gesche Margarethe Gottfried, who rendered herself notorious as a murderess. She resided at Bremen, Germany, and was executed in September, 1830. Dr. Hirschfeld took a cast of her head, and forwarded it to the Edinburgh Phrenological Society, from whose collection Mr. George Combe brought a copy to this country, and from which the above cuts are drawn. The developements of the cast are so striking, and the character of the individual which it represents is so notorious, that it serves as a most interesting specimen to prove and illustrate the principles of phrenology. An extended article on the subject may be found in the thirty-second number of the Edinburgh Phrenological Journal, the mere substance of which can here only be presented.

The father of Gottfried was a tailor in Bremen, of active and industrious habits, but of a stingy and selfish disposition. Gesche was an only daughter. In the seventh year of her age, she became addicted to stealing, and continued committing thefts at every convenient opportunity through life. When about twenty, she was married to a man by the name of Miltenberg, who is represented to have treated her with much kindness and affection. But she had been married to him only four months before she fell in love with

Gottfried, her future husband, and soon after, with another man by the name of Kassou. She determined to kill Miltenberg, in order to marry Gottfried, but was defeated in several of her first attempts. At last she seized an opportunity, when he was sick, to give him some poison, which took effect and produced his death. But now two serious obstacles stood in the way of her union with Gottfried: 1st, Her parents interfered, and forbid the match; and 2dly, He objected to the marriage on account of her children—having had three by her first husband.

About this time, her parents came to reside with her, both of whom she poisoned, and soon after this, each of her children followed in quick succession—the victims of her cruelty. But here, unexpectedly, another obstacle rose—her brother, who had long been absent on a military campaign in Russia, came home unwell, and opposed her marriage. He soon, however, met with the same fate. Thus, within a few months, she destroyed the lives of six persons, who were bound to her by the nearest and dearest relations in life.

Her marriage with Gottfried proved unhappy, and he, within one year from their union, became also the victim of her cruelty. After this, says her biographer, "she began to poison her acquaintances, without any visible motive: a child came to congratulate her on her birth-day, and received a dose on a piece of biscuit; a friend called one forenoon, and also received a dose; and she tried the strength of her poison on another of her friends, on whose face it caused blotches to appear." At different times, she had many suitors, several of whom she murdered, besides others of her acquaintances. She was finally detected, convicted, and condemned to death, for murdering thirteen individuals, most of whom were related to her in life by the strongest possible ties of consanguinity and friendship.

The phrenological developements of Gottfried were very marked and striking, as may be seen by the cuts. The chief portions of her brain were located in the lower and posterior regions of the head, giving very strong selfish feelings and animal propensities. There was a great deficiency of brain (as the cuts very clearly indicate) in the frontal and coronal regions, showing that she was almost entirely destitute of the moral sentiments. Her strongest faculties appear to have been Amativeness, Secretiveness, Acquisitiveness, Destructiveness, Firmness, and Self-esteem; and those most deficient, were Benevolence, Conscientiousness, Adhesiveness, and Philoprogenitiveness. The cut presenting a back view of the head, shows very great breadth of head over the ears, indicating exceedingly strong Secretiveness and Destructiveness; and the great size and breadth of the neck indicates very large Amativeness. The cuts also show

that the organs of Benevolence and Conscientiousness were very small, and that the organs of Firmness and Self-esteem were extremely large. The reader is referred to the location of those organs, as indicated by the cuts. We deem it unnecessary to enter into any farther analysis of Gottfried's character, or to attempt to show the harmony existing between her phrenological developements and actual life; our object is simply to present the facts in the case, and leave the reader to make the requisite applications, or to draw his own inferences.

"*Progress of Phrenology.*—Since Mr. Combe took his departure for Europe, very little is said on this heretofore engrossing topic. Still, a few individuals are devotedly pursuing investigations, and accumulating important facts illustrative of the leading principles of the science, which will be regarded, at some future period, with interest by philosophers. Mr. L. N. Fowler, of New York, and his brother, O. S. Fowler, who resides in Philadelphia, are collecting cabinets of casts, which embrace fac-similes of the heads of men, women, and children, who have been distinguished for qualities out of the common order of mankind; and the stranger who visits their collection, is positively astonished at the results of their unobstrusive industry in this department of nature. Through the politeness of Dr. Bond, we had an opportunity of inspecting the Philadelphia Phrenological Museum (for such it actually is) the other day—the rarest assemblage, perhaps, on this continent of unique skulls, and casts of persons now living. Each one is characterised by some developement either a little out of the ordinary course, or so strongly marked by peculiarities as to be considered nearly, if not wholly, unparalleled in the series of cranioscopal formations.

"The art of taking casts has been greatly improved by the Messrs. Fowler. Some of their work is quite equal to the best specimens of clay modeling by Clavenger or Ives. The bust of Dr. Reynell Coates was admirably finished, and altogether superior to any method before known to artists, or, at least, practised by them, in New England. If the progress of phrenology depends on accuracy in copying nature, in amassing specimens of her handy work, in connection with the study of mental phenomena, the science is surely losing nothing in the United States."—*Boston Medical and Surgical Journal, July 8th.*

ARTICLE III.

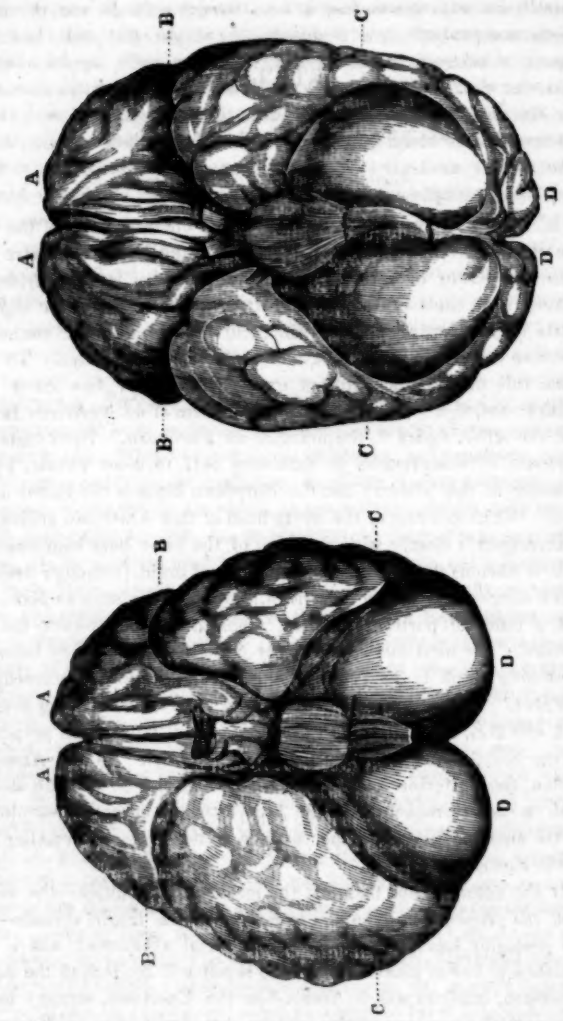
REVIEW OF MORTON'S CRANIA AMERICANA.

(Continued from page 397 of this Journal.)

If, then, there be reason to believe that different parts of the brain manifest different mental faculties, and if the size of the part influence the power of manifestation, the necessity is very evident of taking into consideration the *relative proportions of the different parts of the brain*, in a physiological inquiry into the connection between the crania of nations and their mental qualities. To illustrate this position, we present exact drawings of two casts from nature: one, figure 1 (next page), is the brain of an American Indian; and the other, figure 2, the brain of an European. Both casts bear evidence of compression or flattening out, to some extent, by the pressure of the plaster; but the European brain is the flatter of the two. We have a cast of the entire head of this American Indian, and it corresponds closely with the form of the brain here represented.

It is obvious that the absolute quantity of brain, (although probably a few ounces less in the American,) *might* be the *same in both*; and yet, if different portions manifest different mental powers, the characters of the individuals, and of the nations to which they belonged, (assuming them to be types of the races,) might be exceedingly different. In the American Indian, the anterior lobe, lying between A A and B B, is small, and in the European it is large, in proportion to the middle lobe, lying between B B and C C. In the American Indian, the posterior lobe, lying between C and D, is much smaller than in the European. In the American, the cerebral convolutions on the anterior lobe and upper surface of the brain, are smaller than in the European.

If the anterior lobe manifest the intellectual faculties—the middle lobe, the propensities common to man with the lower animals—and the posterior lobe, the domestic and social affections; and if size influence power of manifestation, the result will be, that in the native American, intellect will be feeble—in the European, strong; in the American, animal propensity will be very great—in the European, more moderate; while in the American, the domestic and social affections will be feeble, and in the European, powerful. We do not state these as established results; we use the cuts only to illustrate the fact that the native American and the European brains *differ*


European, Fig. 2.
A
A
B
B
C
C
D
D
American Indian, Fig. 1.
A
A
B
B
C
C
D
D
Inches.
1
2
3
4
5
6
7
8

*widely in the proportions of their different parts;** and the conclusion seems natural, that if different functions be attached to different parts, no investigation can deserve attention which does not embrace the size of the different regions, in so far as this can be ascertained.

We have entered more minutely into the reasons why we regard these measurements as important, because we conceive that the distinguishing excellence of Dr. Morton's work consists in his having adopted and followed out this great principle. It appeared necessary to dwell upon it at some length, also, because Professor Tiedemann, in his comparison of the European with the Negro brain, has entirely neglected it, and in consequence has arrived at physiological conclusions which we regard as at variance with the most certain psychological facts, viz. He says that "there is undoubtedly a very close connection between the ABSOLUTE SIZE of the brain and the INTELLECTUAL POWERS AND FUNCTIONS of the mind;" and proceeding on this principle, he compares the weight of the whole brain, as ascertained in upwards of fifty Europeans of different ages and countries, with its weight in several Negroes, examined either by himself or others. He gives extensive tables, showing the weight of the quantity of millet seed necessary to fill Ethiopian, Caucasian, Mongolian, American, and Malay skulls; and adds, that "the cavity of the skull of the Negro, in general, *is not smaller* than that of the European and other human races." The inference which he draws is, that *intellectually* and *morally*, as well as anatomically, the Negro is naturally on a par with the European; and he contends that the opposite and popular notion is the result of superficial observation, and is true only of certain degraded tribes on the *coast* of Africa.†

* From inspecting numerous crania of both races, we cannot doubt of the general truth of this proposition.

† Tiedemann's Essay has been critically examined by Dr. A. Combe, in the Phrenological Journal, (vol. xi.) who shows not only the error of principle committed by the author in assuming the whole brain to be the organ exclusively of the *intellectual* faculties, but the more striking fact that Tiedemann's own tables refute his own conclusions. Tiedemann's measurements are the following:—

		Inches.	Lines.
Average length of brain in	4 Negroes,	5	11
" " "	7 European males,	6	2 1-7
" " "	6 European females,	5	10½
" greatest breadth in	4 Negroes,	4	8 1-6
" " "	7 European males,	5	1 1-7
" " "	3 European females,	5	4½
" height of brain in	3 Negroes,	2	11½
" " "	7 European males,	3	4
" " "	4 European females,	2	9½

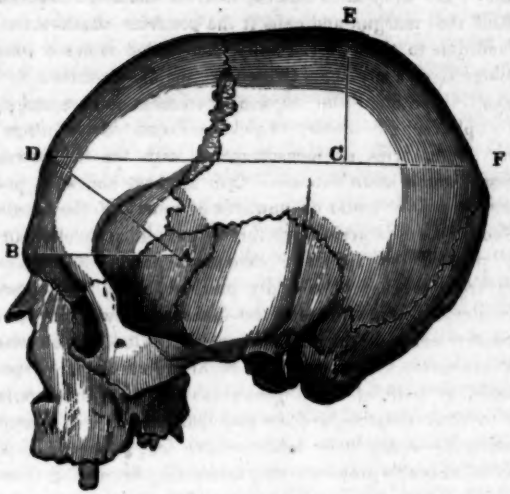
The inferiority of the Negro brain in size, is self-evident from these dimensions.

We entertain a great respect for Prof. Tiedemann, but we cannot subscribe to his principle, that the whole brain is the measure of the *intellectual* faculties; a proposition which assumes that the animal and moral feelings have no seat in this organ. He does not grapple with Dr. Gall's facts or arguments, but writes as if Gall had never existed. Dr. Morton has followed a different course, and we think wisely. He says, "I was from the beginning desirous to introduce into this work a brief chapter on phrenology; but, conscious of my own inability to do justice to the subject, I applied to a professional friend to supply the deficiency. He engaged to do so, and commenced his task with great zeal; but ill health soon obliged him to abandon it, and to seek a distant and more genial climate. Under these circumstances, I resolved to complete the phrenological table, and omit the proposed essay altogether. Early in the present year, however, and just as my work was ready for press, Geo. Combe, Esq. the distinguished phrenologist, arrived in this country; and I seized the occasion to express my wants to that gentleman, who, with great zeal and promptness, agreed to furnish the desired essay, and actually placed the MS. in my hands before he left the city." He adds, that Mr. Combe provided his memoir without having seen a word of the MS. of the work, or even knowing what had been written, and besides, owing to previous arrangement, he was limited to a given number of pages.

We can afford space only to notice Mr. Combe's illustration of the location of the great divisions of the faculties in the different regions of the brain. It is necessary to give this in order to render the true import of several of Dr. Morton's measurements and results intelligible to the reader.

In this figure (Fig. 3), a line drawn from the point A, transversely across the skull, to the same point on the opposite side, would coincide with the posterior margin of the super-orbitary plate: the anterior lobe rests on that plate. The line A B denotes the length of the anterior lobe from back to front, or the portion of brain lying between A A and B B in figures 1 and 2. A, in figure 3, "is located in the middle space between the edge of the suture of the frontal bone and the edge of the squamous suture of the temporal bone, where these approach nearest to each other, on the plane of the superciliary ridge." We have examined a Peruvian skull of the Inca race, a skull of a flat-headed Indian, an Indian skull found near Boston, and compared them with several skulls of the Anglo-Saxon race, and observe that the line A B is considerably longer in the latter than in the former, and that it corresponds with the length of the anterior lobe, as denoted by the super-orbitar plate. The

Swiss, Fig. 3.



All the figures are drawn to the same scale.

point C is the centre of ossification of the parietal bone, corresponding to the centre of Cautiousness. The line C D is drawn from C through the centre of ossification in the left side of the frontal bone. This is the centre of Causality. E corresponds with Firmness of the phrenologist. The space D A B is an approximation to the department occupied by the intellectual faculties. D C E contains the organs of the moral sentiments. All the space behind A, and below the line D C F, is devoted to the animal organs. The space E C F contains Self-esteem and Love of Approbation, which may act either with the moral sentiments or animal propensities, according as either predominate. Mr. Combe states that these lines are only approximations to accurate demarcations of the regions, as no modes of rigid admeasurement have yet been discovered.

Mr. Phillips invented an instrument, (which he describes,) by which Dr. Morton and he measured the contents of the space above D C F, in cubic inches, in nearly all the skulls. This is called the *coronal region*. By deducting the contents of this space from the contents of the whole skull, they give the measurement of the *subcoronal region*. Mr. Phillips found it impossible to measure D A B, and the space behind A and below D C F, in cubic inches, and Dr. M. therefore measured, as an approximation, the whole space con

tained in the skull anterior to the anterior margin of the foramen magnum. He designates this the *anterior chamber*. He measured all behind that margin, and calls it the *posterior chamber*.

In addition to these, Mr. Phillips has added tables of thirty-nine phrenological measurements (which are lucidly described by him) of each skull. We quote the following statement as an example of the spirit of philosophic inquiry which animated Mr. Phillips in his labours. "A series of measurements with the craniometer and compasses, much more extensive than any we had seen published, had been carefully made on upwards of ninety of the crania, when Mr. George Combe arrived in this city. That gentleman immediately pointed out so many erroneous points of measurement, (arising from the use of a badly marked bust,) that those tables *were condemned*, together with the labour bestowed on them," and new measurements of the whole were substituted in their place!

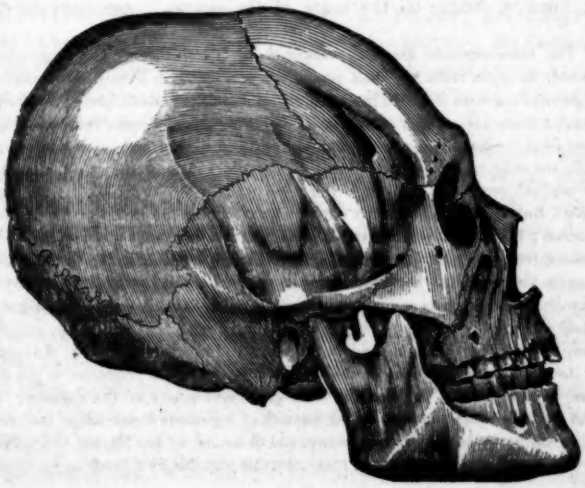
It is impossible to commend too highly the zeal and perseverance manifested by both of these gentlemen in their endeavours to do justice to their subject; and we anticipate that their example, and the results to which their labours have led, will give a powerful impulse to others to prosecute this interesting branch of science.

We shall now present a brief view of the manner in which Dr. Morton applies his own principles, and of some of the conclusions at which he has arrived.

He divides the native American nations into two great families—the *Toltecan* and *American*. "It is in the intellectual faculties," says he, "that we discover the greatest difference between them. In the arts and sciences of the former, we see the evidences of an advanced civilisation. From the Rio Gila, in California, to the southern extremity of Peru, their architectural remains are every where encountered to surprise the traveller and confound the antiquary; among these are pyramids, temples, grottoes, bas-reliefs, and arabesques; while their roads, aqueducts, and fortifications, and the sites of their mining operations, sufficiently attest their attainments in the practical arts of life." p. 84. The desert of Atacama divides the kingdom of Peru from that of Chilé, and is nearly a hundred miles in length. A river, abounding in salt, runs through it. This desert was the favourite sepulchre of the Peruvian nations for successive ages. The climate, salt, and sand, dry up the bodies, and the remains of whole generations of the former inhabitants of Peru may now be examined, after the lapse perhaps of thousands of years. Dr. Morton has been enabled to examine nearly one hundred Peruvian crania, and concludes that that country has been, at different times, peopled by two nations of differently formed crania, one of

which is perhaps extinct, or at least exists only as blended by adventitious circumstances, in very remote and scattered tribes of the present Indian race. "Of these two families, that which was antecedent to the appearance of the Incas is designated as the *ancient Peruvian*, of which the remains have been found only in Peru, and especially in that division of it now called Bolivia. Their tombs, according to Mr. Pentland, abound on the shores and islands of the great lake Titicaca, in the inter-alpine valley of the Desaquadera, and in the elevated valleys of the Peruvian Andes, between the latitudes of 14° and 19° 30′ south." Our knowledge of their physical appearance is derived solely from their tombs. They were not different "from cognate nations in any respect, except in the conformation of the head, which is small, greatly elongated, narrow in its whole length, with a very retreating forehead, and possessing more symmetry than is usual in skulls of the American race. The face projects, the upper jaw is thrust forward, and the teeth are inclined outward. The orbits of the eyes are large and rounded, the nasal bones salient, the zygomatic arches expanded; and there is a remarkable simplicity in the sutures, that connect the bones of the cranium." p. 97. Dr. Morton presents the following cranium, plate IV. of his series, "as an illustrative type of the cranial peculiarities of the people;" and he is of opinion that the form is "natural, unaltered by art."

ANCIENT PERUVIAN, Fig. 4.



He gives the following description of this cranium:—

"Though the forehead retreats rapidly, there is but little expansion at the sides, and from the face to the occiput, inclusive, there is a narrowness that seems characteristic of the race. The posterior view represents the skull elevated in that region, without any unnatural width at the sides, and the vertical view sufficiently confirms the latter fact.

*Measurements.**

Longitudinal diameter,	7.3 inches.
Parietal "	5.3 "
Frontal "	4.3 "
Vertical "	5.3 "
Inter-mastoid arch,	14. "
Inter-mastoid line,	4.3 "
Occipito-frontal arch,	15. "
Horizontal periphery,	19.8 "
Extreme length of head and face,	8.2 "
Internal capacity,	81.5 cubic inches.
Capacity of the anterior chamber,	31.5 "
Capacity of the posterior chamber,	50. "
Capacity of the coronal region,	16.25 "
Facial angle,	73 degrees."

This skull was found by Dr. Ruschenberger, about a mile from the town of Arica, on the south of the *morro*, a cemetery of the

* The measurements are thus described by Dr. Morton. The *longitudinal* diameter is taken from the most prominent part of the os frontis to the occiput; the *parietal* diameter from the most distant points of the parietal bones; the *frontal* diameter from the anterior inferior angles of the parietal bones; the *vertical* diameter from the fossa, between the condyles of the occipital bone, to the top of the skull; the *inter-mastoid arch* is measured with a graduated tape, from the point of one mastoid process to the other, over the external tables of the skull; the *inter-mastoid line* is the distance, in a straight line, between the points of the mastoid processes; the *occipito-frontal arch* is measured by a tape over the surface of the cranium, from the posterior margin of the foramen magnum to the suture, which connects the os frontis with the bones of the nose; the *horizontal periphery* is measured by passing a tape around the cranium, so as to touch the os frontis immediately above the superciliary ridges, and the most prominent part of the occipital bone; the *length of the head and face* is measured from the margin of the upper jaw, to the most distant point of the occiput; the *zygomatic diameter* is the distance, in a right line, between the most prominent points of the *zygomæ;* the *facial angle* is ascertained by an instrument of ingenious construction and easy application, invented by Dr. Turnpenny, and described by Dr. Morton. Dr. Morton took nearly all the anatomical measurements with his own hands.

ancient Peruvians. "The surface is covered with sand an inch or two deep, which being removed discovers a stratum of salt, three or four inches in thickness, that spreads all over the hill. The body (to which this head belonged) was placed in a squatting posture, with the knees drawn up and the hands applied to the sides. The whole was enveloped in a coarse, but close fabric, with stripes of red, which has withstood, wonderfully, the destroying effects of ages, for these interments were made before the conquest, although at what period is unknown."

Dr. Morton states that the average internal capacity of the Caucasian or European head, is at least 90 cubic inches. In three adult ancient Peruvians, it is only 73. The mean capacity of the anterior chamber is about one half of that of the posterior, or 25 to 47, while the mean facial angle is but 67 degrees.

"It would," he continues, "be natural to suppose, that a people with heads so small and badly formed, would occupy the lowest place in the scale of human intelligence. Such, however, was not the case." He considers it ascertained that "civilisation existed in Peru anterior to the advent of the Incas, and that those anciently civilised people constituted the identical nations whose extraordinary skulls are the subjects of our present inquiry."

There is a discrepancy between this description of these skulls and the civilisation ascribed to their possessors, which is unique in Dr. Morton's work. In every other race, ancient and modern, the coincidence between superior cranial forms and superior mental qualities is conspicuous. On turning to Mr. Phillips's phrenological measurements, however, we find that the *mean* extent of the forehead in this skull, from the point A on one side, to the same point on the other, over B, or the "inter-sphenoidal arch, over the *perceptive* organs," (as ascertained by a graduated tape,) is 6.37 inches; and the mean extent from A to A, over D, or the "inter-sphenoidal arch, over the *reflective* organs," is 6.12 inches. The mean of the same measurements of "100 *unaltered* crania of adult aboriginal Americans," of which many are ascertained to be males, are 6.7 and 6.87 inches; showing a superiority in the region of the *observing organs* in the ancient race, and in that of the *reflecting organs* in the modern. This indicates a larger quantity of brain in the anterior lobe in the extinct race, than Dr. Morton's description leads us to infer. This subject obviously requires further elucidation.

If these skulls had been compressed by art, we could have understood that certain portions of the brain might have been only displaced, but not destroyed. The spine, for instance, may be bent, as in hump-back, yet retain its functions; and we might suppose the

anterior lobe, in cases of compression, to be developed laterally, or backwards, and still preserve its identity and uses. This, indeed, is Dr. Morton's own conclusion in regard to the brain in the flat-headed Indians. He gives an interesting and authentic description of the instrument and process by means of which the flat-head tribes of Columbia river compress the skull, and remarks that, "besides the depression of the head, the face is widened and projected forward by the process, so as materially to diminish the facial angle; the breadth between the parietal bones is greatly augmented, and a striking irregularity of the two sides of the cranium almost invariably follows; yet the absolute internal capacity of the skull is not diminished, and, strange as it may seem, the intellectual faculties suffer nothing. The latter fact is proved by the concurrent testimony of all travellers who have written on the subject." Dr. Morton adds, that in January, 1839, he was gratified with a personal interview with a full blood Chenouk, in Philadelphia. He is named William Brooks, was twenty years of age, had been three years in charge of some Christian missionaries, and had acquired great proficiency in the English language, which he understood and spoke with a good accent and general grammatical accuracy. His head was as much distorted by mechanical compression, as any skull of his tribe in Dr. Morton's possession. "He appeared to me," he adds, "to possess more mental acuteness than any Indian I had seen, was communicative, cheerful, and well mannered." The measurements of his head were these; longitudinal diameter, 7.5 inches; parietal diameter, 6.9 inches; frontal diameter, 6.1 inches; breadth between the cheek bones, 6.1 inches; facial angle, about 73 degrees. Dr. Morton considers it certain that the forms of the skull produced by compression, never become congenital, even in successive generations, but that the characteristic form is always preserved, unless art has directly interfered to distort it.—pp. 206, 207.*

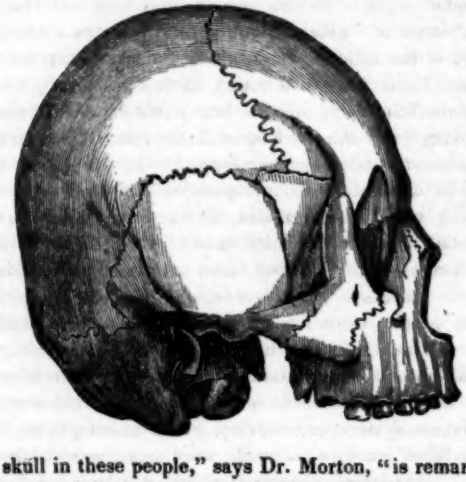
* Mr. George Combe, in his late lectures in New Haven, mentioned that in May, 1839, he had been introduced, in New York, to the Rev. Jason Lee, who had been a missionary among the Indians, 2000 miles beyond the Rocky Mountains, and who had with him Thomas Adams, a young Indian of about 20 years of age, of the Cloughewallah tribe, located about 25 miles from the Columbia river. This young man's head had been compressed by means of a board and cushions, in infancy. Mr. C. examined his head, and found that the parietal was actually greater than the frontal and occipital diameter. The organs in the superciliary ridge of the forehead were fully developed; the upper part of the forehead was flat and deficient; his organs of Language and Form, said Mr. C. were large. He had studied the English language for two years, and spoke it tolerably well. Mr. C. added, that in conversation he was intelligent, ready, and fluent, on all subjects that fell within the scope of the faculties of observation, situated in the superciliary ridge, but dull, unintelligent, and destitute equally of ideas and language, on topics

The extinct race in Peru was succeeded by the "INCA, OR MODERN PERUVIANS." This race dates its possession of Peru from about the eleventh century of our era; and as this period corresponds with the epoch of the migration from Mexico of the Toltecas, the most civilised nation of ancient Mexico, Dr. Morton concurs in the opinion expressed by other authors, that the modern Peruvians were of a common origin with the ancient Mexicans. "The modern Peruvians," says he, "differ little in person from the Indians around them, being of the middling stature, well limbed, and with small feet and hands. Their faces are round, their eyes small, black, and rather distant from each other; their noses are small, the mouth somewhat large, and the teeth remarkably fine. Their complexion is a dark brown, and their hair long, black, and rather coarse." p. 115. The civilisation and comparative refinement of the Incas was blended with some remains of the ferocity of the savage. "Matrimonial engagements were entered into with very little ceremony or forethought, and they were as readily set aside at the option of the parties. Polygamy was lawful, but not prevalent." Among the people, incontinence, sensuality, and child-murder were common. Their diet was chiefly vegetables. The people were indolent, filthy, and negligent in their persons. The hair of their mummies, in many instances, is charged with desiccated vermin. Their religious system was marked by great simplicity, and was divested of those bloody rites which were common with the Aztecs of Mexico. They believed in one God, whom they called Viracocha, in the immortality of the soul, and in rewards and punishments in the next life. They worshipped both the sun and moon, in whose honour they erected temples and formed idols. They consecrated virgins, in the same manner as practised in modern convents. Their funeral rites were barbarous and cruel; when their chief men died, they buried a number of human victims, women, boys, and ser-

that implied the activity of the reflecting faculties, situated in the upper part of the forehead. Mr. C. considered his mental powers to be in direct harmony with the developement of his brain. We record this observation, because it is obvious, that if different parts of the brain manifest different faculties, it is indispensable that observations on the *manifestations* of the mental powers should be equally minute and discriminative with those on the developement of particular portions of the cranium. Mr. C. added, that the only way to ascertain whether the brain was merely displaced by compression, or otherwise altered, was by careful examination after death; and that he had recommended to Mr. Lee to call the attention of any medical men who might visit these Indians, to this subject. We observed the death of one of these flat-headed Indians mentioned as having occurred in New York. Did any of the phrenologists or anti-phrenologists examine the brain? It was an excellent opportunity for Dr. Reese.

vants, to attend on the departed in the next world. They were conquered by Pizarro, with a force which consisted of sixty-two horsemen, and one hundred and two foot soldiers. p. 124. The following is given as a strikingly characteristic Peruvian head.

MODERN PERUVIAN, Fig. 5.



"The skull in these people," says Dr. Morton, "is remarkable for its small size, and for its quadrangular form. The occiput is greatly compressed, sometimes absolutely vertical; the sides are swelled out, and the forehead is somewhat elevated, but very retreating. The skulls are remarkable for their irregularity. The dimensions of this skull are as follows;—

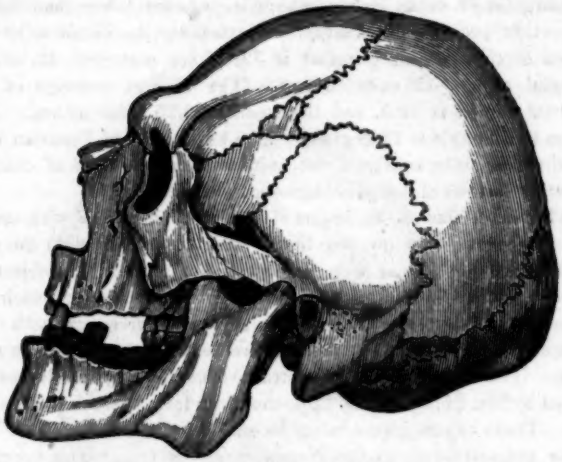
Longitudinal diameter,	6.1 inches.
Parietal "	6. "
Frontal "	4.7 "
Vertical "	5.5 "
Inter-mastoid arch,	16. "
Inter-mastoid line,	4.5 "
Occipito-frontal arch,	14.1 "
Horizontal periphery,	19.5 "
Internal capacity,	83. cubic inches.
Capacity of the anterior chamber,	33.5 "
Capacity of the posterior chamber,	49.5 "
Capacity of the coronal region,	15.75 "
Facial angle,	81 degrees."

Dr. Morton gives the result of the measurement of twenty-three adult skulls of the pure Inca race. "The mean of the internal capacity is 73 cubic inches, which is probably lower than that of any other people now existing, not excepting the Hindoos." The mean of the anterior chamber is 32, of the posterior, 42, of the coronal region, 12 cubic inches. The highest measure of the coronal region is 20.5, and the smallest, 9.25 cubic inches. The mean facial angle is 75 degrees. The heads of nine Peruvian children appear to be nearly, if not quite as large, as those of children of other nations of the same age.—p. 133.

The small size of the brains of this race, compared with that of the Europeans who invaded them, is in accordance with the ease with which the former were overcome and retained in subjection. The deficiency in the posterior region of the brain, in which the organs of the domestic affections are situated, corresponds with their feeble conjugal attachment and indifference to the lives of their children. The diameter from Constructiveness to Constructiveness, is stated by Mr. Phillips to be 4.5 inches, and from Ideality to Ideality, 5.1. These organs give a talent for art, and are considerable. The same measurements in the Naumkeagh, the race which occupied New England, and whose skulls are still dug up near Boston and Salem, and which never made any attainments in the arts, are 4.1 and 4 inches, respectively. Dr. Robertson, in his history of America, mentions that the modern Peruvian race was distinguished for its extraordinary powers of concealment and secrecy. Mr. Phillips states the breadth from Secretiveness to Secretiveness to be 5.6 inches, which is large; the longitudinal diameter is only 6.1. The region of Combativeness also appears to be deficient in these skulls.

The Iroquois confederacy consisted originally of five nations, the Mohawks, Oneidas, Onondagas, Cayugas, and Senecas. They were intellectually superior to the surrounding nations, passionately devoted to war, and victorious over the other tribes. They forced their women to work in the field and carry burdens; they paid little respect to old age, were not much affected by love, were regardless of connubial obligations, and addicted to suicide. "They were proud, audacious, and vindictive, untiring in the pursuit of an enemy, and remorseless in the gratification of their revenge. Their religious ideas were vague, and their cautiousness and cunning proverbial. They were finally subdued and nearly exterminated by the Anglo-Americans in 1779. Some miserable remnants of them, ruined by intoxicating liquors, still exist in the state of New York." The following is the skull of a Huron, one of these nations.

Huron, Fig. 6.

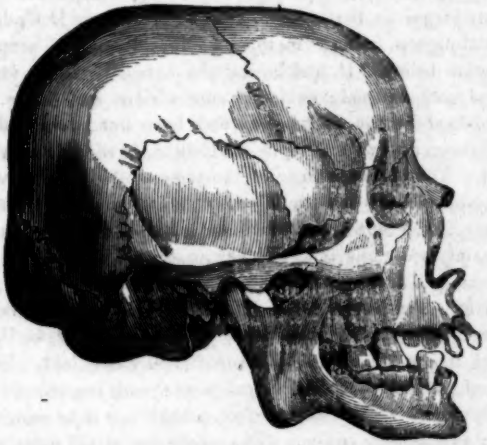


The following are *average* measurements of the five skulls of these nations, given by Dr. Morton: internal capacity, 88; coronal region, 15; anterior chamber, 31.5; posterior chamber, 50 cubic inches.

The Araucanians are the most celebrated and powerful of the Chilian tribes. They inhabit the region between the rivers Biobio and Valdivia, and between the Andes and the sea, and derive their name from the province of Arauco. "They are a robust and muscular people, of a lighter complexion than the surrounding tribes. Endowed with an extraordinary degree of bodily activity, they reach old age with few infirmities, and, generally, retain their sight, teeth, and memory, unimpaired. They are brave, discreet, and cunning to a proverb, patient in fatigue, enthusiastic in all their enterprises, and fond of war as the only source of distinction." "Their vigilance soon detected the value of the military discipline of the Spaniards, and especially the great importance of cavalry in an army; and they lost no time in adopting both these resources, to the dismay and discomfiture of their enemies. Thus, in seventeen years after their first encounter with Europeans, they possessed several strong squadrons of horse, conducted their operations in military order, and, unlike the Americans generally, met their enemies in the open field." "They are highly susceptible of mental culture, but they despise the restraints of civilisation, and those of them who have been educated in the Spanish colonies, have embraced the first opportunity to

resume the haunts and habits of their nation." p. 241. The following is one of three Araucanian skulls delineated in the work.

ARAUCANIAN, Fig. 1.



The average measurements of the three skulls are as follows: internal capacity, 79; coronal region, 15.4; anterior chamber, 32.2; posterior chamber, 48.50.

The measurements of the *anterior* and *posterior* chambers, as we have already mentioned, (p. 549,) are not in accordance with any phrenological rule. The anterior embraces the whole intellect, a portion of the moral sentiments, and a portion of the animal propensities; while the posterior chamber includes the remainder of the animal propensities, and the remainder of the moral organs. The measurement of the internal capacity is free from all objection; and that of the coronal region approaches to correctness; but the first gives merely the aggregate size of all the organs—animal, moral, and intellectual; and the second, that of the moral organs, with a portion of the intellectual organs, and also a portion of the organs common to man with the lower animals. The phrenological measurements given by Mr. Phillips may probably afford more correct means of comparing one portion of the brain with another, in the different nations, but our limits prevent us from analysing them. Unfortunately, also, the letter-press titles to his columns are printed upside down, which renders it exceedingly laborious to consult them. We therefore only remark, that the application of lines delineated by Mr. Combe on the skull Figure 1, to those specimens, brings out the

relation between the mental character and cranial developement forcibly to the eye. Estimating from A to B and D, the ancient Peruvian is seen not to be so defective in the intellectual region as a cursory glance would indicate; while the modern Peruvian is obviously larger in that region. The space above D C, devoted to the moral organs, is large in the modern Peruvian in proportion to the portion below C D, and behind the ear. This race was intelligent and comparatively mild, but superstitious and feeble. It has been subdued by the Europeans, and lives under their dominion. The Hurons, always averse to civilisation, have been nearly exterminated. The preponderance of the region below C D, (that of the animal propensities,) in them is conspicuous, combined with relative deficiency in the moral and intellectual regions. The Araucanians have maintained their independence in the open field, but resisted civilisation. The large developement of the space A B C, devoted to intellect, and also that below C D, and behind the ear, devoted to the propensities, is obvious, while the space below C D, or the region of the moral organs, is proportionally deficient. This indicates great animal and intellectual power, with imperfectly evolved moral feelings. To the latter defect, probably, is to be ascribed their aversion to civilised habits. The inferiority of all these skulls to that of the Swiss, is conspicuous. The internal capacity of it is 95.5, and that of the coronal region, 21.25. Dr. Morton does not give the capacity of the anterior and posterior chambers of this skull, but the larger dimensions of the intellectual organs have already been stated.

We have no space to enter into any description of the skulls found in the ancient tombs, or of those of the Flat-headed Indians and Charibs; suffice it to say, that Dr. Morton's materials are full and satisfactory on these topics, and his facts and conclusions highly interesting. We subjoin a few of the general results at which he arrives from a survey of his entire field.

"The intellectual faculties," says he, "of the great AMERICAN FAMILY, appear to be of a decidedly inferior cast, when compared with those of the Caucasian or Mongolian races. They are not only averse to the restraints of education, but for the most part incapable of a continued process of reasoning on abstract subjects. Their minds seize with avidity on simple truths, while they at once reject whatever requires investigation and analysis. Their proximity, for more than two centuries, to European institutions, has made scarcely any appreciable change in their mode of thinking, or their manner of life; and as to their own social condition, they are probably in most respects what they were at the primitive epoch of

their existence. They have made few or no improvements in building their houses or their boats; their inventive and imitative faculties appear to be of a very humble grade, nor have they the smallest predilection for the arts or sciences. The long annals of missionary labour and private benefaction bestowed upon them, offer but very few exceptions to the preceding statement, which, on the contrary, is sustained by the combined testimony of almost all practical observers. Even in cases where they have received an ample education, and have remained for many years in civilised society, they lose none of their innate love of their own national usages, which they have almost invariably resumed when chance has left them to choose for themselves." "However much the benevolent mind may regret the inaptitude of the Indians for civilisation, the affirmative of this question seems to be established beyond a doubt. His moral and physical nature are alike adapted to his position among the races of men, and it is as reasonable to expect the one to be changed as the other. The structure of his mind appears to be different from that of the white man; nor can the two harmonise in their social relations, except on the most limited scale. Every one knows, however, that the mind expands by culture; nor can we yet tell how near the Indian would approach the Caucasian after education had been bestowed on a single family through several successive generations." p. 82.*

The following are parts of Dr. Morton's table of "mean results," given from his whole measurements.

	Toltecan nations and skulls from mounds.		Barbarous nations, with skulls from the valley of Ohio.		American race, embracing Toltecan and barbarous nations.		Flathead tribe of Columbia river.		Ancient Peruvians.	
	No. of skulls.	Mean.	No. of skulls.	Mean.	No. of skulls.	Mean.	No. of skulls.	Mean.	No. of skulls.	Mean.
Internal capacity in cubic inches,	57	76.8	87	82.4	144	79.6	8	79.25	3	73.2
Capacity of anterior chamber,	46	32.5	73	34.5	119	33.5	8	32.25	3	25.7
Capacity of posterior chamber,	46	43.8	73	48.6	119	46.2	8	47.00	3	47.4
Capacity of coronal region,	46	14.0	71	16.2	117	15.1	8	11.09	3	14.6
Capacity of sub-coronal region,	46	61.8	71	66.5	117	64.5	8	67.35	3	58.6

Remarks.—"The barbarous nations possess a larger brain by 5¼ cubic inches than the Toltecans; while, on the other hand, the Tol-

* Dr. Morton adds that the Indians are extremely defective in comprehending every thing relating to numbers, and we may remark that Mr. Combe, in his lectures in New Haven, showed the great deficiency of the organ of number in their skulls.

tecans possess a greater relative capacity of the anterior chamber of the skull, in the proportion of 42.3 to 41.8. Again: the coronal region, though absolutely greater in the barbarous tribes, is rather larger in proportion in the demi-civilised tribes; and the facial angle is much the same in both, and may be assumed, for the race, at 75 degrees.

"In conclusion, the author is of the opinion that the facts contained in this work tend to sustain the following propositions:—

"1st. That the American race differs essentially from all others, not excepting the Mongolians; nor do the feeble analogies of language, and the more obvious ones in civil and religious institutions and the arts, denote any thing beyond casual or colonial communication with the Asiatic nations; and even those analogies may perhaps be accounted for, as Humboldt has suggested, in the mere coincidence arising from similar wants and impulses in nations inhabiting similar latitudes.

"2d. That the American nations, excepting the polar tribes, are of one race and one species, but of two great families, which resemble each other in physical, but differ in intellectual character.

"3d. That the cranial remains discovered in the mounds from Peru to Wisconsin, belong to the same race, and probably to the Toltecan family." Dr. Morton subjoins the following,

"NOTE *on the internal capacity of the cranium in the different races of men.* Having subjected the skulls in my possession, and such also as I could obtain from my friends, to the internal capacity measurement already described, I have obtained the following results. The mean of the American race (omitting fractions) is repeated here, merely to complete the table. The skulls of idiots, and persons under age, were of course rejected.

Races.	No. of skulls.	Mean internal capacity in cubic inches.	Largest in the series.	Smallest in the series.
1. Caucasian,	52	87	109	75
2. Mongolian,	10	83	93	69
3. Malay,	18	81	89	64
4. American,	147	80	100	60
5. Ethiopian,	29	78	94	65

"1st. The *Caucasians* were, with a single exception, derived from the lowest and least educated class of society. It is proper, however, to mention that but three Hindoos are admitted in the whole number, because the skulls of these people are probably smaller than those of any other existing nation. For example, seventeen Hindoo heads give a mean of but seventy-five cubic inches; and the three received

into the table are taken at that average. To be more specific, we will give, in detail, the number of individuals of each nation, as far as ascertained.

Anglo-Americans,	6
German, Swiss, and Dutch,	7
Celtic, Irish, and Scots,	7
English,	4
Guanché, (Lybian,)	1
Spanish,	1
Hindoo,	3
Europeans not ascertained,	23
Total,	52

"2d. The *Mongolians* measured, consist of Chinese and Eskimaux; and what is worthy of remark, three of the latter give a mean of 86 cubic inches, while seven Chinese give but 82.

"3d. The Malays embrace Malays proper and Polynesians, thirteen of the former and five of the latter; and the mean of each presents but a fractional difference from the mean of all.

"4th. The *Ethiopians* were all unmixed negroes, and nine of them native Africans, for which I am chiefly indebted to Dr. M'Dowell, formerly attached to the colony at Liberia.*

"5th. Respecting the American race, I have nothing to add, excepting the striking fact that, of all the American nations, the Peruvians had the smallest heads, while those of the Mexicans were something larger, and those of the barbarous tribes the largest of all, viz.

Toltecan nations,	Peruvians, collectively,	76 cub. in.
	Mexicans, collectively,	79 "
	Barbarous tribes, as per table,	82 "

* Dr. Morton states the mean internal capacity of the European, or Caucasian skulls, to be 87, and of the Ethiopian, or Negro race, to be 78 cubic inches. We observe that Dr. Andrew Combe, in his "Remarks on the Fallacy of Professor Tiedemann's Comparison of the Negro brain and intellect with those of the European," arrives at results coinciding with those obtained by Dr. Morton. Tiedemann gives the weight of only four Negro brains. "The average European," he says, "runs from 3 lbs. 2 oz. to 4 lbs. 6 oz.; while the average of the four Negro brains rises to only 3 lbs. 5 oz. 1 dr.; or 3 oz. above the lowest European averages; and the *highest* Negro falls 5 oz. short of the *highest average* European, and no less than 10 oz. short of Cuvier's brain." Phren. Journ. vol. xi. We have already shown, p. 547, that Tiedemann's linear dimensions of the European and Negro brain also contradict his theory of equality, and are in harmony with Dr. Morton's results.

"An interesting question remains to be solved, viz. the relative proportion of brain in the anterior and posterior chambers of the skull in the different races; an inquiry for which I have hitherto possessed neither sufficient leisure nor adequate materials."—p. 261.

We now add Dr. Morton's statement in his prefatory letter to Mr. Phillips. "I am free to acknowledge," says he, "that there is a singular harmony between the mental character of the Indian and his cranial developements, as explained by phrenology."

Our readers will discover, in the length and minuteness of this article, the great value which we attach to Dr. Morton's work. We regard it as an honour to the country, and as a proof of talent, patience, and research in himself, which place him in the first rank among natural philosophers. We rejoice to see that he does "not, even now, consider his task as wholly completed;" but hopes to publish a "supplementary volume, in which it will further be my aim to extend and revise both the anatomical and phrenological tables, and to give basal views of at least a part of the crania delineated." We sincerely trust that the favourable reception of this volume will induce him to execute these intentions. Valuable as the materials are in the present work, they lie very much apart. He wrote without systematic relation to phrenology; yet phrenological facts and inferences are presented *passim* throughout the work. Mr. Phillips's phrenological tables are extensive, minute, and interesting, but they are not connected directly with the text; while Mr. Combe's essay was composed and printed without his having seen either the text of Dr. Morton, or the final results of Mr. Phillips's measurements. There is strong evidence, in this course of proceeding, of a very direct love of truth, and a reliance on all its parts harmonising with each other; but much of the effect and instruction are lost to the reader, in consequence of the facts and principles not being brought into juxtaposition by the respective contributors. We shall expect this defect to be supplied in the next edition, which we do not doubt will be called for. The work is remarkably cheap, keeping in view the quantity and quality of the *material* of which it is composed.*

* *Postscript.*—On page 553, we remarked that "there is a discrepancy between the description of the ancient Peruvian skulls and the civilisation ascribed to their possessors, which is unique in Dr. Morton's work." When the present sheet was in the press, we received a letter from Dr. Morton, in which he says, "Since that part of my work which relates to the *ancient Peruvians* was written, I have seen several additional casts of skulls belonging to the same series, and although I am satisfied that Plate IV, (Fig. 4, p. 551,) represents an unaltered cranium, yet, as it is the *only unaltered one* I have met with among the remains of that ancient people, I wish to correct the statement, too hastily drawn, that it is *the cranial type* of their nation. My matured opinion is, that the ancient Peruvians were a branch of the

ARTICLE IV.

Dr. F. J. Gall's System of the Functions of the Brain, extracted from Charles Augustus Blode's account of Dr. Gall's Lectures, held on the above subject at Dresden, 1805.

L. D. Chapen, Esq. of New York, has in his possession a small work on phrenology with the above title. It is probably the only copy in this country, and, from the rarity and antiquity of the work, it is certainly quite a curiosity in the history of the science. Dr. Gall, in the early course of his labours, wisely determined to publish no account of his discoveries until he could do the subject justice, and acquit himself with honour. And the first production which he ever presented to the public, was, in connection with Dr. Spurzheim, a work on the Anatomy of the Brain, offered to the French Institute in the year 1808. In the mean time, several sketches of Dr. Gall's discoveries were published, either in miscellaneous periodicals, or in distinct treatises by themselves. In this last class, we find the following notices of works: Froriep published one in Berlin, 1802; Martens, in Leipzic, 1802; Walther, in Zurich, 1802; Bischoff, in Berlin, 1805; Blode, in Dresden, 1805. This last was published in German, and from which the work heading this article is extracted and translated into the English language. It was undoubtedly designed to explain, in some measure, the nature of Dr. Gall's discoveries, and prepare the public mind for their reception.

The work before us (which Mr. Chapen has kindly loaned us) is particularly interesting to the phrenologist, in a historical point of view. In its looks, typography, and language, it bears the impress of "olden times," and seems to carry the reader back to the early history and labours of the great founder of the science. It is, as it were, a mirror through which we may behold the nature and extent of Dr. Gall's discoveries in the year 1805. At that time, he had been engaged in expounding and defending publicly the science only about nine years; but more than thirty years had then elapsed from the time of his *first* discoveries touching the functions of the brain, and it is even truly astonishing how much he accomplished within this

great Toltecan family, and that the cranium had the same general characteristics in both. I am at a loss to conjecture how they *narrowed the face* in such due proportion to the head; but the fact seems indisputable. I shall use every exertion to obtain additional materials for the farther illustration of this subject.

Signed, SAMUEL GEORGE MORTON."

Philadelphia, March 3, 1840.

period. He had, even at that date, proved and settled all the great fundamental principles of the science, and discovered a majority of the cerebral organs; and that our readers may become better acquainted with the results of his labours, we will here present a brief synopsis of the work before us.

It opens with an "anatomical introduction," designed to prove not only the *fibrous* structure of the brain, but that it is composed of two distinct sets of nerves—viz. the diverging and converging fibres. After a minute, and somewhat extended, exposition of the anatomy of the brain, he enters upon a discussion respecting its functions, under the following inquiries or propositions:—

"Man and animals are born with certain dispositions and inclinations, and for the exertion of them they have received certain organs, by way of innate instruments, by the means of which they may have an intercourse with the external world. These organs reside in the brain, which, however, must not be considered as a faculty, but merely as a material requisite of it. Nor is the brain the general organ of all the mental faculties, but merely the place of rendezvous of all the single organs, each innate disposition having an organ of its own, which is increased in proportion to the power residing in the disposition. These organs of the innate dispositions are expressed on the surface of the brain, and form certain protuberances on the osseous cover of the skull, by which the existence of the organs may be ascertained under certain strictures. And from these observations arises the special system of the organs, or the system of the skull, as a science entirely new."

Each of the above propositions are discussed at considerable length. For instance, the inquiry respecting a plurality of organs to the brain, is examined under the following heads:—

1. "The existence of sundry single organs of the mental dispositions may with some probability be inferred from analogy; for we observe throughout the whole scale of creation, that whenever nature intends to create a new power, or produce a new effect, she will also take new preparatory arrangements for them."

2. "It is a fact, known and proved, that man can vary the objects of reflection and attention at large."

3. "All men, if the brain were the general organ of the soul, must by nature be endowed with like dispositions; but this is not the case. For experience teaches us, that with regard to their intensity or intrinsic quality, the greatest variety is found, even from infancy, in the dispositions of man."

4. "The single dispositions to most mental powers, innate to man, are, again, found single and detached in the different species of animals."

5. "The dispositions of man cannot reside in one and the same organ for every disposition, because these dispositions are not deve-

loped at one and the same time, but at several different periods of life."

6. "The existence of sundry single dispositions, and their being attended with their respective organs in the brain, likewise is proved from many phenomena which appear in hurts and distempers of the brain."*

7. "We lastly may, from many other physiological and psychological phenomena and facts, be led to suppose that every single mental power must have its own organ in the brain." Dr. Gall here enters into an examination of the philosophy of sleeping, dreaming, somnambulism, visions, ecstacies, and the effects of medicines and intoxicating drinks on the brain, and deduces from each of these, severally, many important facts and arguments in proof of a plurality of cerebral organs. His remarks on the organisation and growth of the skull, showing that its general shape and particular protuberances are occasioned by the brain, and, consequently, that its external surface corresponds to its internal, and therefore the size of the individual cerebral organs may be very accurately ascertained by the developements of the skull—his remarks on all these topics are copious, critical, and satisfactory. After disposing of these points, Dr. Gall enters upon the description and an analysis of the several mental faculties which he had then discovered. In this list, we find twenty-seven organs mentioned, the names of which are as follows:—"*The impulse to propagation; Tenderness for offspring; The organ of the aptness to receive an education; The organ of Locality; Of the recollection of persons; The disposition for colouring, and the delighting in colours; The organ of sound; Arithmetic; Words; Language; Mechanical skill; Friendly attachment; Valour; Murdering; Cunning; Larceny; Weight; Ambition and vanity; Circumspection; Comparative perspicuity; Metaphysical perspicuity; Wit; Inference; Good-nature; Theosophy; Perseverance and Mimic.*"

These are the *English* names applied by the translator, and it is

* The following curious fact, under this head, is introduced by the compiler of the work in the form of a note:—"Very remarkable is the instance which the celebrated *Villers*, in his exposition of Gall's system, relates of a young woman, who, through some accident during her first childbed, lost all recollection of what had happened to her ever since her marriage. She would hear neither of her husband nor of her child, constantly endeavoured to remove both from her, and nothing but repeated persuasions and the authority of the asseverations of her relatives were able to convince her that she was a wife and a mother. She, however, could never recollect the first year of her wedlock."—*Monthly Mag. Jan.* 1805, p. 494.

quite probable that many of them do not clearly express the sense, or just the right shade of meaning which Gall might have intended, as he first described and named the organs in the German language. It will be observed that these names have now been very much changed, and that several additional organs have since been discovered. This might rationally be expected in the farther developements of the science, and it moreover affords evidence of the truth and reality of the discoveries. Though some changes have taken place in the number and nomenclature of the organs, yet the location and essential functions of *all* the organs which Gall discovered and described, remain now the same that they ever were.

There is abundant evidence to prove that Dr. Gall did not first map out the skull, or merely conjecture the location of the organs, but, on the contrary, that he proceeded slowly, step by step, discovering first one organ, then another, and another. In proof of this, we quote the following remarks made by Mr. Combe, last year, in his lectures in this city:—"When I was in Germany," says Mr. Combe, "I saw a collection of books describing the science at different stages of its progress, and also skulls marked at different times; all proving that the organs were discovered in succession. Indeed, I have found in this country a most unexpected corroboration of the fact. Nicholas Biddle, Esq. of this city, when a young man, and on a visit to Europe, in 1806, attended a course of Dr. Gall's lectures, and was so much interested, that he requested Dr. Spurzheim to mark out the places of the organs on the skull, which he did. This is the skull, (which Mr. Biddle has kindly presented me, saying that I could make a better use of it than he could,) and you perceive that there are a number of unoccupied places. You perceive that Hope, Conscientiousness, Individuality, Concentrativeness, Time, Size, and Weight, are not marked upon it, they, at that time, being unascertained."

ARTICLE V.

A Lecture delivered before the Woodville Lyceum Association, by Mariano Cubi I Soler, Professor of Modern Languages in the College of Louisiana. 8vo. pp. 24.

This is an address on phrenology, delivered publicly before a large audience at Woodville, by Professor Soler, of the Louisiana College, located at Jackson. From numerous sources, we have evidence

to believe that phrenology not only has many able advocates, but has created a very general interest throughout all classes of the community, in this portion of the United States. The science is taught in several of their public institutions of learning, and not unfrequently is made the theme of popular addresses and lectures. Such is the character of the pamphlet now before us. Though it treats chiefly of the elementary principles of the science, yet they are ably and lucidly discussed, under the following heads;—First, that *the mind acts through the brain;* Secondly, that *the mind employs, variously, different portions of the brain;* and, Thirdly, that *size of brain is a chief element of mental power.*

After disposing of these propositions, Professor Soler discourses in a general manner on the *three* natures of man, *moral, intellectual,* and *animal;* that there are certain innate faculties or powers pertaining to each, and possessing certain fixed and definite relations to external objects; that these faculties are all primarily *good in their nature,* though liable to perversion; that man is, by his creation, a free moral agent, and can direct and control these powers at his will; that his highest happiness, and the perfection of his being, require that all these faculties should be exercised in *perfect harmony,* and gratified by their *appropriate objects,* and that such a course is no less in accordance with the laws of the nature of man than with the requirements of God. As a specimen of his style and manner of treating the subject, we present below the last two pages of this lecture.

"We must study man as he has been created; created by supremely perfect wisdom, for supremely perfect ends; with imperfect but improving elements—with liabilities to sink into vice, but with powers to walk in the path of rectitude—with tendencies to suffer misery, but with capacities to seek and enjoy present and future happiness.

"But religion, as well as philosophy, shows that virtue and happiness, not vice and misery, were the object of the Almighty in the creation of man. Religion, as well as philosophy, shows that virtue and happiness consist in obeying, as far as we can, the laws which God has established for the physical and moral government of the universe; and that, therefore, it becomes our most imperative duty to discover these laws, that we may act in accordance with the will of our Heavenly Father. Phrenology explains the laws which govern mind here below—mind, as it exists in our present condition, connected with matter. Without a knowledge of it, therefore, we remain, to a very great extent, ignorant of the manner in which we ought to act, in the most important occasions of our lives, to ensure, now and hereafter, happiness to ourselves and others.

"Take marriage for example. Without a knowledge of phrenology—without knowing that God has, by an eternal, unchangeable decree, ordained that man can only be virtuous and happy by *satisfying temperately and harmoniously all his desires,* we may enter into that condition and reap from it ourselves, and communicate or transmit to others,

affliction and misery instead of gratification and joy. Suppose a person, influenced only by love of the beautiful and love of property, disregards the cravings of the remaining thirty-three mental instincts, and forms a matrimonial connection with an individual beautiful and rich, indeed, but incapable of gratifying the other organs. Ideality and Acquisitiveness will no doubt luxuriate for a while, but, like hunger surrounded by dainties, they will soon cease to crave. In this satiated condition, Benevolence, Adhesiveness, intellect, Self-esteem, will cry aloud for satisfaction; and if, instead of finding in the individual with whom we have connected ourselves for life the proper qualities to appease the cravings of these other mental appetites, we only find there immoral principles, levity, ignorance, and undignified deportment, what a harvest of affliction and misery we shall reap, notwithstanding the transcendent beauty and immense property of our partner! On the other hand, if we marry chiefly with a view to satisfy what is termed pure, disinterested love, and even all our moral sentiments, but disregard Acquisitiveness and the sense of feeling, thus becoming blind to the known laws of physical existence and transmission, neither the most exquisite, the most refined satisfaction of all our affections, nor the most sublime and heaven-like enjoyment of all our virtuous cravings, will make up for the miseries of want, or the pangs created by a deformed, sickly, half-starved, suffering progeny.

"As this principle is of universal application, I might multiply, without end, examples in illustration of it. The one offered may suffice for the present. We may smile, or we may be serious, when we hear of man's possessing thirty-five organs, and of his having various clashing, opposing, and antagonistic desires; but it will nevertheless be certain, that the greater number of them we satisfy in any action, the more religious, moral, happy we are, and shall be, as far as that action is concerned; and the fewer we gratify, the more vicious, immoral, and miserable. With a knowledge of phrenology we shall be certain, that in marriage, or in any other action, not one but all our organs must be satisfied temperately and in due proportion, and that, therefore, we must study not only the nature of the action in all its bearings, but also ourselves as connected with that action. When we shall be certain that our animal passions, as well as our intellectual powers and moral feelings, will all be, by that action, temperately and harmoniously gratified, then, and not till then, shall we be certain that we are right—then, and not till then, shall we be certain that we obey the laws of God.

"And here, in conclusion, permit me to observe, that power of acting establishes duty of performance. If it has pleased Infinite Wisdom to bestow upon us animal instincts, moral sentiments, and intellectual powers, and to place us in a sphere where these capacities can find ample scope for action and guidance, as all the facts which constitute the sciences of geology, physiology, and phrenology prove, we are in duty bound to give them well regulated exercise. We can, as moral and intellectual beings, discern results, and be anxious to act for the general good. If we do not use our efforts so to do, as far as in us lies the power, we are responsible to God and man for our neglect, and for all the evil to us and to others, which shall arise from it. He who acts *now*, without connecting his *present* action with its inevitable *future result*, and without ascertaining, as far as it is in his power to ascertain, that the *result* will be for present as well as future, for individual as well as general happiness, acts not like a man, and clearly transgresses the laws of God, which have given him the power, and therefore made it his duty to use efforts to become more and more virtuous, useful, and happy."

ARTICLE VI.

Treatise on the Physiological and Moral Management of Infancy, by ANDREW COMBE, M. D. *with Notes and a Supplementary Chapter*, by JOHN BELL, M. D. Published by Carey & Hart. 12mo. pp. 307.

This is the title of a new work from the well-known pen of Dr. A. Combe, and though its contents do not strictly come within the province of phrenology, yet from the intrinsic value of its matter, as well as from its intimate connection with the principles of that science, we deem the work well worthy of a notice in this place. From a critical examination of its pages, we predict that this new production of Dr. Combe is destined to be as popular, and to have as extensive a circulation, as his former work on the "Principles of Physiology, applied to Health and Education."* The increasing demand for works on the subject of physiology and its practical applications, is a cheering evidence of the advancement of a department of knowledge which, of all others, involves most seriously the happiness and best interests of mankind. The primary cause of this change in the community may be attributed, in no small degree, to the interest which the discovery and progress of phrenology have created. In fact, phrenology is strictly a part of physiology, being simply the results of an investigation into the true functions of the brain—the most important organ in the human body. The advocates of this science were the first in Great Britain to proclaim the vast importance of a general diffusion of a knowledge of the laws of physical organisation. They took the lead in expounding these laws, and showing their various applications, by writing popular essays for sundry periodicals, by the publication of numerous works, and the delivery of many public lectures on the subject. Such, also, has been the case in our own country.

No person but a believer in phrenology can fully perceive and appreciate the important bearings which the principles of physiology has on human happiness. It is absolutely necessary to see the *entire dependence of all mental manifestations upon physical organisation*, before mankind will ever pay that attention to the laws of the animal economy which their nature and importance demand. This

* We are informed, on good authority, that the Messrs. Harpers, of New York, have sold over *thirty thousand* copies of this work within four years, and they have recently issued a new edition, considerably improved and enlarged, which will undoubtedly find as great a sale.

is one of the principal causes why these laws have been so little appreciated or understood, both by the learned and the unlearned. And just as long as *mind* is studied and regarded as an *abstract entity*, being entirely independent in its operations of the body, and as long as there exists in the community a certain kind of contempt for the latter, just so long will there be ignorance and violation of some of the most important laws in the moral government of God. Mere dry precepts or verbal directions are not sufficient on this subject. We must become thoroughly acquainted, by observation and study, with the nature of the laws involved, and the consequences of their violation. And this remark applies not only to the laws of organic matter, but also to the *laws of mind*—for the laws of the latter are as fixed and certain as those of the former; and when violated, their penalties are equally unavoidable.

The work before us contains a very clear and faithful exposition of these laws, as applied to infancy. It is one of Dr. Combe's best productions; and we hesitate not to affirm that it is decidedly the most valuable and useful work that has ever been written on the subject. The truth of this remark could be fully substantiated, did space permit; but as we shall take occasion to refer to some topics in this work hereafter, our present notice of it must necessarily be brief. It discusses the following topics:—extent of mortality in infancy; sources of disease in infancy; delicacy of constitution in infancy; conditions in the mother affecting the health of the child; of the constitution of the infant at birth; the nursery, and conditions required in it; the management of the infant immediately after birth—washing and dressing; food of the infant at birth; on the choice, properties, and regimen of a nurse; artificial nursing and weaning; cleanliness, exercise, and sleep in early infancy; management of the infant during teething; management from the time of weaning to the end of the second year; on the moral management of infancy; and a supplementary chapter, including some general remarks on the above subjects, with particular reference to this country, by the American editor, Dr. J. Bell. Dr. B. has also appended to the other chapters many valuable notes. We most cordially recommend this work to the attention of all our readers; it should be not only read, but *studied* by every parent—and most especially by every *mother*—throughout the United States.

MISCELLANY.

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Philosophy of Mind, developing new sources of Ideas, designating their distinctive classes, and simplifying the faculties and operations of the whole mind. By JOHN STEARNS, M. D. of New York, late President of the Medical Society of the State.

This is the title of a new treatise (in pamphlet form, 8vo. pp. 25) on mental science. The writer, after some general observations on the nature and importance of mental philosophy, proceeds to remark as follows:—"I shall now proceed to give my views on this subject, for which I claim no farther credence than as they may consist with reason and with truth, and be sustained by facts and by satisfactory evidence. Preparatory to more detailed explanations, I now submit the following propositions, as comprehending the fundamental principles of this theory:—

"I. Man consists of three distinct entities.—BODY, SOUL, and MIND.

"II. The ideas of sensation are those carnal ideas which constitute the animal propensities, and which we derive, in common with other animals, from the five senses.

"III. The intellectual, and moral, and religious ideas, which some philosophers ascribe to reflection, and to innate principles, are derived entirely and exclusively from the soul. In the soul is held the high court of chancery, denominated conscience, or the moral sense.

"IV. When the soul operates upon the brain, it produces what may be denominated a *moral mind*, endowed with intellectual and religious faculties; and until excited to operation by this operation, the faculties of the brain remain perfectly dormant.

"V. When the senses operate upon the brain, they produce what may be denominated a *sensual mind*, which man possesses in common with the inferior animals, but which is essentially changed and improved by the accession of the soul to the body."

Dr. Stearns here discusses, at some length, his first proposition, after which he offers sundry remarks in proof and illustration of the remaining propositions. We cannot here present even an analysis of his views, and much less enter into an examination of the merits of his theory of mind. It is altogether too *abstract* and *metaphysical* to discuss in a *phrenological* journal.

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Aspects of Phrenology on Religion.—In a recent number of the Georgia Argus, (a weekly paper published at Columbus, Ga.) we find the following communication of a correspondent, addressed to the editors:—

"I had the pleasure last Sabbath of attending the very able and learned discourse of the Rev. Dr. Blake, at the Methodist church; his subject was managed with great ability; showing evidently a mind of the highest order of intellect, and studiously cultivated. In the elucidation of a portion of his subject, he incidentally mentioned the science of phrenology; and remarked, that if it was properly understood by divines, and its principles practically taught, great good would result to the church; the idea appeared to the auditors, I have no doubt, as somewhat absurd, as a smile was visible throughout; it struck me, however, as

true; in fact, I have for many years believed that the time was not far distant when truths brought to light by philosophy would be called to aid the cause of religion. It has been unfortunate for the world, however, that so much bigotry should have existed in different ages: Galileo was told from high authority in the church, that his doctrine of the earth's revolution around the sun was at variance with Holy Writ, and that therefore it could not be true; the same was said to Columbus, upon his intimation of the existence of another continent. Bishop Butler, Adam Smith, Dugald Stewart, Dr. Huchinson, Mr. Ried, Dr. Thomas Brown, and Judge Blackstone, have all carried out in their teachings the principles of phrenology, though ignorant of the science. Improvement in the philosophy of the human mind is progressive, consequently the arts and sciences advance in every age. The discovery of the art of printing greatly aided the cause of religion and the spread of the gospel; so the discovery of phrenology is destined by the Almighty to carry truth into the ranks of error, to scatter that darkness which now enshrouds the intellectual and moral world, to strengthen the cause of God and religion, and to teach mankind that all the faculties of their nature, when brought into harmony with those laws which govern man and external nature, will constitute him happy here, and that a conformity to the will of God will render him happy hereafter.

"The time will come, when it will be seen that phrenology and religion harmonise: that the mysterious truths of the one will be analogically illustrated by the other; both teach the supremacy of man's moral nature; revelation addresses the individual powers and faculties which phrenology ascribes to man; revelation and phrenology alike suppose man designed by the Creator to believe mysterious truths, and capable of believing them, and righteously punished if this disbelief be persevered in; both agree in the fallen condition of man; both recognise the moral conflict in the breast of a good man between antagonistic principles; both acknowledge diversity of endowment, and consequent responsibility; both demand candour and charity in judging others; both agree in their estimate of virtue, and in exploding the doctrine of human merit. Truth and error cannot harmonise."

Laws of Hereditary Descent.—It is a settled principle in physiology, that the organisation of children depends very much on that of the parents. This principle pervades all organic matter, and has long been observed and successfully applied in many departments of the animal kingdom. But the great mass of mankind have been either profoundly ignorant, or entirely unmindful of the fact, that the *human* race is, in like manner, governed by organic laws, and is susceptible of improvement by precisely the same means. It would seem at first scarcely possible, that there could exist such ignorance and indifference on a subject that so vitally affects the health, happiness, and best interests of man. Strange that he should not exercise reason and common sense for the improvement of his own race, as well as of that of the brutes!

Phrenology is destined to throw great light on this intricate and all-important subject. Facts abundantly prove that not only bodily *predisposition* to certain diseases is transmitted from parents to children, but that *mental* peculiarities are also, to a great extent, the result of hereditary descent. Phrenology, by making known the true functions of the brain, and showing the dependence of mind on matter, enables us to understand the laws which govern the transmission of mental qualities—that, as a general thing, the faculties which predominate in strength and activity in the parents will constitute the leading features of character

in their children. Thus strong animal propensities, selfish feelings, and moral sentiments, may severally be transmitted; or faculties calculated to excel in the mechanic arts, fine arts, and poetry, or those better adapted to the cultivation of literature, science, and philosophy. These laws involve interests of the greatest magnitude, and cannot in their proper place receive too much attention. They have repeatedly been alluded to in the Journal, but will be discussed more fully in its pages hereafter.

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Mental Derangement.—The following curious case of insanity we copy from the Philadelphia Gazette of July 7. The mental phenomena in the present instance are entirely inexplicable on any other principle whatever, except that of a plurality of organs to the brain. Only a few faculties appear to have been deranged; Combativeness, Destructiveness, and Cautiousness, were undoubtedly most affected. The intellectual faculties as a class, it appears, were unimpaired. The facts in the case were as follows:—

"Some thirty years ago, a beautiful lady, the only daughter of a noble house in the north of Germany, from having been one of the most cheerful girls, became subject to fits of the deepest melancholy. All the entreaties of her parents were insufficient to draw from her the reason of it; to their affection, she was cold—to their caresses, rude; and though society failed to enliven her, she bore her part in it with a power and a venom of sarcasm that were as strange to her former character as they were unbecoming her sex and youth. The parents contrived, during her temporary absence from home, to investigate the contents of her writing-desk, but no indications of a concealed or disappointed passion were to be found, and it was equally clear that no papers had been removed. The first news they heard of her was, that the house in which she was visiting had been burnt to the ground; that she had been saved with difficulty, though her room was not in that part of the building where the fire had commenced; that her escape had at first been taken for granted, and that when her door was burst open, she was found still dressed and seated in her usual melancholy attitude, with her eyes fixed on the ground.

"She returned home neither altered in manner or changed in demeanor, and as painfully brilliant in conversation when forced into it. Within two months of her return, the house was burnt to the ground, and her mother perished in the flames; she was again found in the same state as on the former occasion; did not alter her deportment upon hearing the fate of her mother, made no attempt to console her father, and replied to the condolence of her friends with a bitterness and scorn almost demoniacal. The father and daughter removed to a spa for change of scene. On the night of their arrival, the hotel was in flames; but this time the fire began in her apartment, for from her window were the sparks first seen to issue, and again was she found dressed, seated, and in a reverie. The hotel was the property of the sovereign of the little state in which the spa was situated.

"An investigation took place; she was arrested, and at once confessed that on each of the three occasions she had been the culprit; that she could not tell wherefore, except that she had had an irresistible longing to set houses on fire. Each time she had striven against it as long as she could, but she was unable to withstand the temptation; that this longing first supervened a few weeks after she had been seized with a sudden depression of spirit; that she felt a hatred to all the world, but

had strength to refrain from oaths and curses against it. She is at this moment in a madhouse, where she was at first allowed some liberty, but after an exhibition of homicidal monomania towards a child, of a ferocity most appalling, it was found necessary to apply the severest restraint. She still possesses her memory, her reasoning powers, her petulant wit, and observes the most scrupulous delicacy."

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Periodicals and Phrenology.—The *North American Review* for July, has fourteen pages devoted to a review of Dr. Morton's Crania Americana. This notice is decidedly favourable to the work—compliments it highly as a production on natural history, but is entirely silent as to its important bearings on phrenology. This review contains only one single allusion to the science, and that is, in the *writer's opinion*, against it; whereas, many hundreds of facts and arguments, far more striking and palpable, might be adduced from the Crania Americana in favour of phrenology. The ancient Peruvians are cited, by the reviewer, as having only *average-sized heads*, and yet were far advanced *in civilisation;* at some future time, we may show *in what* their civilisation consisted, and that it was of such a *character* as to be in *perfect accordance* with their cranial developements.

The *Christian Examiner* for May, published at Boston, contained a notice of the Crania Americana, similar in character to that in the North American Review, though much shorter.

The *American Journal of Science and Arts* for July, contains an able and extended plea in behalf of phrenology, from the pen of its editor, Professor Silliman. This article, vindicating the claims of phrenology in the first scientific Journal in the United States, is no less creditable to its conductor, than just to the cause of truth and science.

The two last numbers of the *Western Medical Journal*, published at Louisville, Ky. contain a critical and extended review of Morton's Crania Americana, from the pen of Professor Caldwell. As the subject is treated in strictly a *phrenological* manner, accompanied with many interesting and important remarks on the science, we shall copy, at the first convenient opportunity, some parts of this review into the Journal.

The *Gentleman's Magazine* for August, has an article "on the *Humbug of Phrenology*, by Russell Jarvis, Esq." The *character* of this article is such, that we consider it entirely unworthy of notice in our pages.

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Application of Phrenology to Marriage.—In a small work, entitled "Philosophy of Courtship and Marriage"—first published in Great Britain, and recently reprinted in this country—the author, after giving some wise and appropriate directions in this matter, thus introduces the subject of phrenology:—

"A Xantippe may rouge and pearl-powder her face into the semblance of the meekly patient Griselda, but she cannot obliterate the organs of Combativeness and Destructiveness. The fair infidel may play the outward devotee to perfection, but all her surface orisons will not fill up the fatal gap in the organ of Reverence. I sincerely pity the anti-phrenologist for many reasons, but for none more than this, that he throws away the best and most effectual guiding-staff through the quicksands of courtship and marriage. Combe and Cupid should ever be fellow-travellers; and by trusting in *Gall*, you may escape *wormwood*."

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